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**PRELIMINARY ASSESSMENT/
VISUAL SITE INSPECTION**

**LAKE-RIVER CORPORATION
BERWYN, ILLINOIS
ILD 010 597 276**

FINAL REPORT

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460**

Work Assignment No.	:	C05087
EPA Region	:	5
Site No.	:	ILD 010 597 276
Date Prepared	:	May 4, 1992
Contract No.	:	68-W9-0006
PRC No.	:	009-C05087IL13
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EPA Region 5 Records Ctr.



354004

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DATE 11/14/07
RIN #
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EXECUTIVE SUMMARY

~~ENFORCEMENT
CONFIDENTIAL~~

Resource Applications, Inc. (RAI) performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Lake-River Corporation (Lake-River) facility in Berwyn, Illinois. Lake-River is a subsidiary of Kinark Corporation. This report summarizes the results of the PA/VSI and evaluates the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified. In addition, a completed U.S. Environmental Protection Agency (EPA) Preliminary Assessment Form (EPA Form 2070-12) is included in Attachment A to assist in prioritization of RCRA facilities for corrective action.

Started as an independent oil company in 1925 by Feldman Brothers, Lake-River became a private oil terminal in 1937. By 1948, the commercial terminal operation was started and the company began storing products for other customers. The facility operates in an area of approximately 50 acres, with 350,000 square feet occupied by buildings. The facility was owned by the Feldman Brothers company from 1925 until 1964 when it was sold to Kinark Corporation.

The facility is a bulk terminal and warehouse used for storage and handling of more than 200 different petroleum and chemical products. Products are received by rail, barge, and truck for a variety of customers. During transit, the title for the products remains with owner companies. Operations consist, primarily, of storage and transfer of chemicals, many of which are flammable. Lake-River, at one time, handled fuel oils.

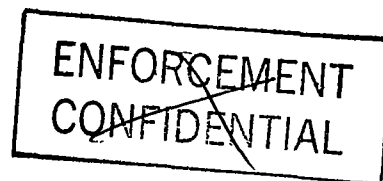
Waste is generated by flushing filling lines with product and by cleaning trucks and barges with water. Waste is stored in drums and tanks and hauled for treatment by Avganic Industries, Inc., Terre Haute, IN. Lake-River's hazardous waste storage facility was formally closed on February 10, 1984 and its RCRA Part A Permit application was withdrawn by IEPA on March 9, 1984. Hazardous wastes generated by cleaning activities are disposed of within 90 days of generation.

The PA/VSI identified the following 8 SWMUs and 3 AOCs at the facility:

Solid Waste Management Units

1. Lower Dock Waste Tank
2. Upper Dock Waste Tank
3. Laboratory Waste Drum Storage Area
4. Waste Oil Drum Storage Area
5. Waste Accumulation Tank 56

6. West Satellite Waste Drum Storage Area
7. Southwest Satellite Waste Drum Storage Area
8. Laboratory Satellite Area



Areas of Concern:

1. Main Terminal and Barge Unloading Area
2. West Terminal Area
3. Southwest Terminal Area

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The potential for releases of hazardous materials to soil, ground water, surface water, and air is moderate for SWMUs 2, 3, 6, and 7. SWMU 2 does not have secondary containment, SWMU 3 does not have an impermeable floor or secondary containment, and SWMUs 6 and 7 have no secondary containment. However, the facility has controlled methods for filling, transfer, and disposal of wastes, and the records are properly maintained. Because of the containment methods and ability to contain a spill, the remaining SWMUs and AOCs pose only a limited threat of release to the environment.

The terminal is a large quantity generator of chemicals. There is a potential for spills in all areas from the failures of pipelines and pumps located throughout the facility. Several spills have been documented at the facility, including: 1) 350 gallons of fuel oil in 1979; 2) 2,300 gallons of naphtha spirits in 1980; 3) an unknown volume of an unknown material in 1981; 4) 1,395 gallons of butyl acetate ur/grade and 1,750 gallons of primary amyl acetate in 1985; and 5) 13,031 gallons of isooctane and 213 gallons of butanol in 1987. Since there has been no soil or ground water sampling conducted in the spill areas, the extent of contamination cannot be determined. Measures taken by the facility to prevent spills include the proper use of storage equipment and having trained personnel on-site during operating hours. Security guards are on duty from 8:00 p.m. to 6:00 a.m. each day and on all holidays. No indication of any release of hazardous wastes to any medium was observed during the VSI.

The facility is located in a densely-populated western suburb of Chicago, Illinois. Drinking and industrial water in the area is supplied by the Chicago Metropolitan Water Supply System, the source for which is Lake Michigan. Surface water flow is through storm sewers. Thus, the possibility of wastes from the site contaminating industrial or drinking water via surface water flow is low.

Security measures at the facility include fencing, controlled entry, and danger signs at all entrances. All terminal storage and handling areas are locked at 8:00 p.m. The possibility of direct public contact with contaminated site soil is minimal.

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During the VSI, RAI concluded that the wastes generated at Lake-River terminal are adequately managed. RAI recommends the following:

- To minimize the potential for a release, the facility might consider constructing secondary containment such as concrete flooring under SWMUs 3 and 4, and a berm for SWMU 2.
- Continued surveillance for detection and containment of any accidental spills resulting from the rupture of filling lines, failure of pumps, or leakage.
- Sampling of soil and ground water for contaminants of concern in the spill areas marked in AOC 1 (points 1 & 2), AOC 2 (points 4, 5, 6 & 8), and AOC 3 (location 7) on Figure 2.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. C05087 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5. Resource Applications, Inc. (RAI), TES 9 team member, provided the necessary assistance to complete the PA/VSI activities for the Lake-River Corporation (Lake-River).

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells.
- Closed and abandoned units.
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units.
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a non-routine and non-systematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases.

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all SWMUs, identifying evidence of releases, initially identifying potential sampling locations, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Lake-River facility in Berwyn, Illinois. The PA was completed on June 2, 1991. RAI gathered and reviewed information from the Illinois Environmental Protection Agency (IEPA) and from U.S. EPA Region 5 RCRA files. RAI also reviewed documents from the U.S. Department of Agriculture (USDA), the U.S. Geological Survey (USGS), the Federal Emergency Management Agency (FEMA) and the Illinois State Geological Survey (ISGS). The VSI was conducted on June 25, 1991. It included interviews with the Lake-River facility representatives and a walk-through inspection of the facility. Eight SWMUs and 3 AOCs were identified at the facility.

RAI completed EPA Form 2070-12 using information gathered during the PA/VSI. This form is included in Attachment A. The VSI is summarized and 15 inspection photographs are included in Attachment B. Field notes from the VSI are included in Attachment C.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

The Lake-River facility is located at 5005 S. Harlem Avenue, Berwyn, Illinois at latitude 41° 59' 00" north and longitude 87° 54' 00" west (Lake-River, 1980b). The area is in a densely-populated area of suburban Chicago, and is adjacent to and on both sides of the Chicago Sanitary and Ship Canal, and approximately one-half mile southeast of the Des Plaines River (Figure 1). The site occupies approximately 50 acres, including 350,000 square feet of buildings.

The area immediately surrounding the facility is industrial, with residential and commercial areas within a quarter mile to the north. Along the Sanitary and Ship Canal, for more than a mile in either direction, are railroad tracks, sewage disposal works, and other industrial complexes. Forest Preserve land borders the Des Plaines River approximately one-half mile north of the site. The facility is approachable by US Interstate 55, Harlem Avenue exit 283 N.

2.2 FACILITY OPERATIONS

An independent oil company started in 1925 by Feldman Brothers, Lake-River has grown into a multi-million dollar installation. The facility became a private oil terminal in 1937 and by 1948, the commercial terminal operation was started and the company began storing and reshipping products for other customers. In 1964, the facility was purchased by Kinark Corporation of Tulsa, OK. Lake-River is a subsidiary of Kinark Corporation. Presently, operations consist primarily of the storage and transfer of chemicals, many of which are flammable.

The facility handles approximately 6 million gallons of chemicals per year brought in by truck, barge, and rail. These products are transhipped for customers who retain ownership throughout shipment. Nearly all wastes generated by blending and drumming operations result from the flushing of hoses. A small percentage of waste is generated in the laboratory and from spill clean ups. Wastes are collected in drums and tanks and shipped to Avganic Industries, Inc., Terre Haute, Indiana (Avganic/IN)



LAKE RIVER CORPORATION
BERWYN, ILLINOIS

Figure 1
Facility Location

Source: USGS, 1980
Scale 1" = 2000'

Resource Applications, Inc.

for treatment. The main storage tank for D001 hazardous waste is Waste Accumulation Tank 56 (SWMU 5) (Key, 1991).

Table 1 lists all of the facility SWMUs, while Figure 2 is a facility map showing the location of SWMUs and AOCs.

2.3 WASTE GENERATING PROCESSES

The Lake-River facility is a terminal for bulk storage and transfer of various chemicals and petroleum products. There are storage tanks with capacities of 500 to 3,400,000 gallons. About 50 percent of the materials handled by Lake-River come in by barge and 50 percent by tanker truck (IEPA, 1989). At one time, the wastes were stored in what is currently the West Satellite Waste Drum Storage Area (SWMU 6) for greater than 90 days. This area was eventually RCRA closed and converted to a satellite accumulation area (see section 2.5); however, the waste generating process stayed the same. Wastes are generated during 3 operations: flushing of transfer lines; laboratory testing; and the cleaning of product tanks. Table 2 is a list of wastes generated at the facility.

Before transferring a product, the hose used must first be flushed with the product. This flushed effluent is collected and transferred to one of the satellite drums (SWMUs 6 & 7) and eventually transferred to Waste Accumulation Tank 56 (SWMU 5). This waste, generated at a rate of 8,000 gallons every 3 months, becomes part of a chem-fuel recovery program managed by Avganic/IN.

Wastes generated from chemical testing in laboratory operations are temporarily collected in 5-gallon containers stored in the Laboratory Satellite Area (SWMU 8). Once the 5-gallon containers are filled, the wastes are transferred to 55-gallon drums and stored in the Laboratory Waste Drum Storage Area (SWMU 3). Laboratory wastes of D001 are put into Waste Accumulation Tank 56 (SWMU 5). Laboratory-generated F005 wastes are sent in drums to Avganic Industries' Cottage Grove, Wisconsin facility at a rate of 100 gallons every 3 months. The D002 waste is shipped to Clean Harbors of Chicago for treatment and disposal at a rate of 1 drum per month. The facility generates wastes having ignitable, corrosive, or toxic characteristics. These wastes are mostly commingled and there is no way to estimate the amount of each listed EPA hazardous waste (Lake-River, 1980b).

Waste oil generated from cleaning product tanks is stored in 55-gallon drums in the Waste Oil Drum Storage Area (SWMU 4). These wastes are shipped to Apex Industries for recycling at a rate of approximately 300 gallons per month (Key, 1991).

TABLE 1
SOLID WASTE MANAGEMENT UNITS (SWMUs)

<u>SWMU Number</u>	<u>SWMU Name</u>	<u>RCRA Hazardous Waste Management Unit*</u>	<u>Status</u>
1	Lower Dock Waste Tank	No	Active, less than 90-day storage
2	Upper Dock Waste Tank	No	Active, less than 90-day storage
3	Laboratory Waste Drum Storage Area	No	Active, less than 90-day storage
4	Waste Oil Drum Storage Area	No	Active, less than 90-day storage
5	Waste Accumulation Tank 56	No	Active, less than 90-day storage
6	West Satellite Waste Drum Storage Area	Yes	Active, less than 90-day storage
7	Southwest Satellite Waste Drum Storage Area	No	Active, less than 90-day storage
8	Laboratory Satellite Area	No	Active, less than 90-day storage

Note:

* A RCRA hazardous waste management unit is one that currently requires, or formerly required, a RCRA Part A or Part B permit.

PLAT LAKE-RIVER TERMINALS, INC.

BERWYN, ILLINOIS

"A"

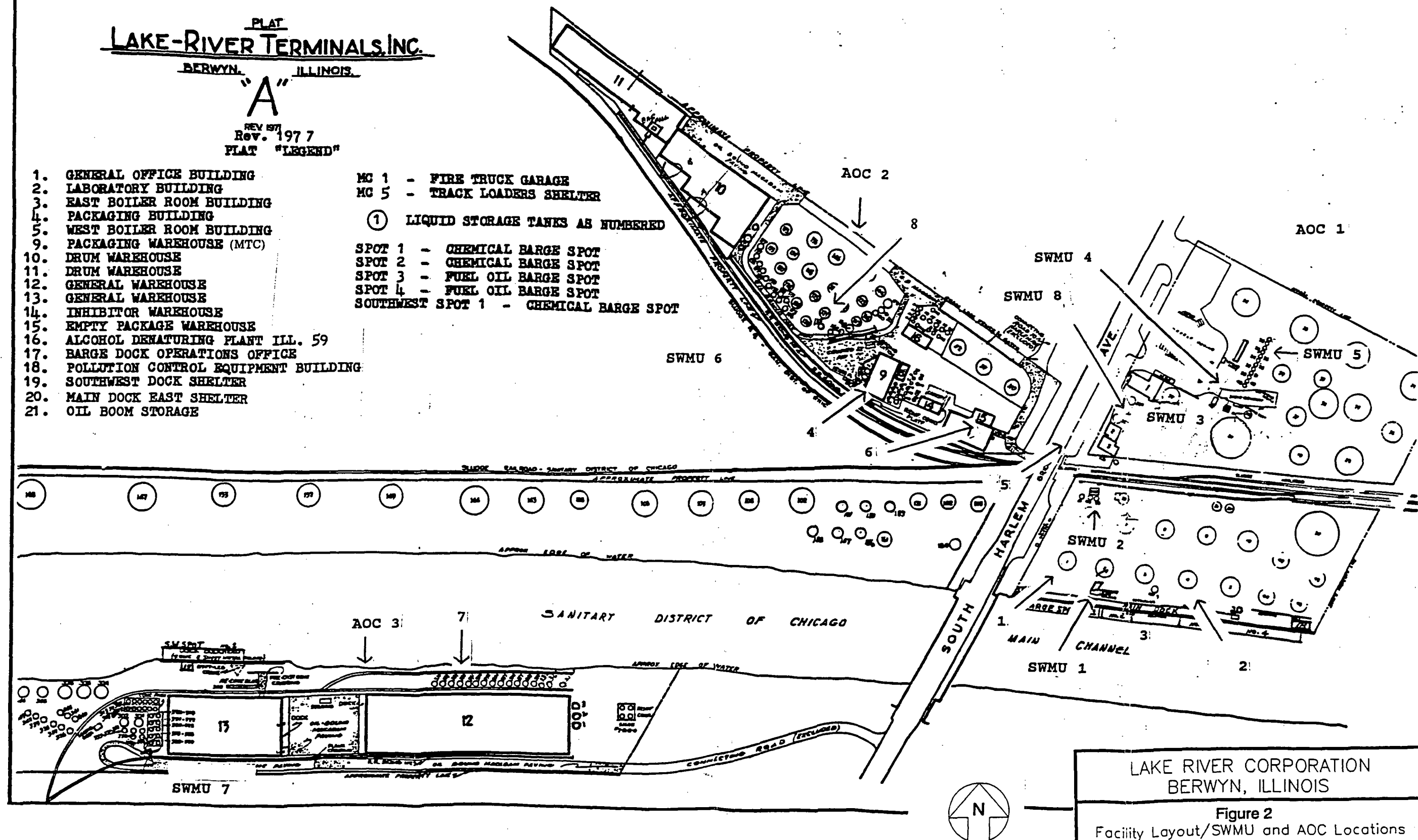
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Rev. 1977
PLAT "LEGEND"

1. GENERAL OFFICE BUILDING
2. LABORATORY BUILDING
3. EAST BOILER ROOM BUILDING
4. PACKAGING BUILDING
5. WEST BOILER ROOM BUILDING
9. PACKAGING WAREHOUSE (MTC)
10. DRUM WAREHOUSE
11. DRUM WAREHOUSE
12. GENERAL WAREHOUSE
13. GENERAL WAREHOUSE
14. INHIBITOR WAREHOUSE
15. EMPTY PACKAGE WAREHOUSE
16. ALCOHOL DENATURING PLANT ILL. 59
17. BARGE DOCK OPERATIONS OFFICE
18. POLLUTION CONTROL EQUIPMENT BUILDING
19. SOUTHWEST DOCK SHELTER
20. MAIN DOCK EAST SHELTER
21. OIL BOOM STORAGE

- MC 1 - FIRE TRUCK GARAGE
MC 5 - TRACK LOADERS SHELTER

① LIQUID STORAGE TANKS AS NUMBERED

- SPOT 1 - CHEMICAL BARGE SPOT
SPOT 2 - CHEMICAL BARGE SPOT
SPOT 3 - FUEL OIL BARGE SPOT
SPOT 4 - FUEL OIL BARGE SPOT
SOUTHWEST SPOT 1 - CHEMICAL BARGE SPOT



LAKE RIVER CORPORATION
BERWYN, ILLINOIS

Figure 2
Facility Layout/SWMU and AOC Locations

Source: Lake River, 1991
Scale 1" = 230'

Resource Applications, Inc.



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE IL 02 SITE NUMBER ILD 010 597 276

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)
Lake River Corporation

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
5005 S. Harlem Avenue

03 CITY Berwyn

04 STATE IL 05 ZIP CODE 60402 06 COUNTY Cook 07 COUNTY CODE 08 CONG DIST

09 COORDINATES: LATITUDE 41 59 00.N LONGITUDE 87 54 00.W

10 DIRECTIONS TO SITE (Starting from nearest public road)

The facility is located on S. Harlem Avenue approachable from U.S. Interstate #55-exit Harlem Avenue North.

III. RESPONSIBLE PARTIES

01 OWNER (if known)
Kinark Corporation

02 STREET (Business, mailing, residential)
7060 South Yale

03 CITY Tulsa

04 STATE OK 05 ZIP CODE 74177 06 TELEPHONE NUMBER (918) 494-0964

07 OPERATOR (if known and different from owner)
Lake River Corporation

08 STREET (Business, mailing, residential)
5005 S. Harlem Avenue

09 CITY Berwyn

10 STATE IL 11 ZIP CODE 60402 12 TELEPHONE NUMBER (312) 242-2300

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON-FILE (Check all that apply)

☒ A. RCRA 3010 DATE RECEIVED: 09/--/80 ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / ☐ C. NONE
MONTH DAY YEAR MONTH DAY YEAR

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION BY (Check all that apply)
☒ YES DATE 06 /25/91 ☐ A. EPA ☒ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ NO ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: (Specify)
CONTRACTOR NAME(S): Resource Applications, Inc.

02 SITE STATUS (Check one)
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1925 Present
BEGINNING YEAR ENDING YEAR ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Commingled chemical wastes generated from flushing of filling lines and truck and barge cleaning. Generated wastes are F001, D001, D002, F005.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Facility is located on Chicago Ship and Sanitary Canal in industrial area. Potential for contamination of soil and ground water exists as a result of failure of filling lines and pumps used for hauling chemicals.

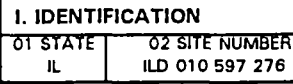
V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents.)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☒ C. LOW (Inspect on time-available basis) ☐ D. NONE (No further action needed; complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT Kevin Pierard 02 OF (Agency/Organization) U. S. EPA 03 TELEPHONE NUMBER (312) 886-4448

04 PERSON RESPONSIBLE FOR ASSESSMENT G.P. Singh 05 AGENCY 06 ORGANIZATION Resource Applications, Inc. 07 TELEPHONE NUMBER (312) 332-2230 08 DATE 07 / 15 / 91
MONTH/DAY YEAR



☐ A. TOXIC
☐ B. CORROSIVE
☐ C. RADIOACTIVE
☐ D. PERSISTENT
☐ E. SOLUBLE
☐ F. INFECTIOUS
☒ G. FLAMMABLE
☒ H. IGNITABLE
☒ I. HIGHLY VOLATILE
☒ J. EXPLOSIVE
☐ K. REACTIVE
☐ L. INCOMPATIBLE
☐ M. NOT APPLICABLE



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND
INCIDENTS

I. IDENTIFICATION

01 STATE IL	02 SITE NUMBER ILD 010 597 276
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II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Since 1979, numerous release have occurred throughout the facility. Ground water analysis should be conducted throughout the facility to determine the presence of contamination.

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
The facility is located on the Chicago Sanitary and Ship Canal. If contained, a release could enter the canal.

01 ☒ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
Low potential for release to air. All wastes are managed in sound, well maintained drums and tanks.

01 ☒ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 98 04 NARRATIVE DESCRIPTION
Lake-River is a terminal for storage and transfer of chemicals (many of them flammable). Release of flammable chemicals in contact with an ignition source may result in a fire or explosion. Wastes generated are commingled D001, F001, D002 and F005.

01 ☒ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 98 04 NARRATIVE DESCRIPTION
Low potential for direct contact for the general population. However, due to the bulk of products and wastes managed at the facility, there is a moderate potential for facility personnel.

01 ☒ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
(Acres)
Since 1979, numerous releases have occurred throughout the facility. Soil samples should be conducted throughout the facility to determine the presence of contamination.

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
None identified. The facility and the city receive their water supply from Lake Michigan.

01 ☒ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 98 04 NARRATIVE DESCRIPTION
Facility personnel work near bulk products and wastes. There is moderate potential for exposure.

01 ☒ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 98 04 NARRATIVE DESCRIPTION
Exposure potential is with facility personnel only.



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND
INCIDENTS

I. IDENTIFICATION

01 STATE IL 02 SITE NUMBER
ILD 010 597 276

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

None identified.

01 ☐ K. DAMAGE TO FAUNA

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION (Include name(s) of species)

None identified.

01 ☐ L. CONTAMINATION OF FOOD CHAIN

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

None identified.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

None identified.

01 ☐ N. DAMAGE TO OFF-SITE PROPERTY

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

None identified.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPS ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

None identified.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

04 NARRATIVE DESCRIPTION

None identified.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None identified.

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

There is a low potential for release from the facility's SWMUs.

V. SOURCES OF INFORMATION (Cite specific references; e.g., state files, sample analysis, reports)

ATTACHMENT B

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

Lake-River Corporation
5005 S. Harlem Ave.
Berwyn, Illinois
ILD 010 597 276

Date: June 25, 1991

Facility Representatives: Ronald Key, Terminal Manager
Jane Besch, Quality Assurance Manager

Inspection Team: Michael Gorman, RAI
G. P. Singh, RAI

Photographer: Michael Gorman

Weather Conditions: Sunny, breezy, 82°F

Summary of Activities: RAI conducted a VSI at the Lake-River facility at 9:30 A.M. Ronald Key and Jane Besch explained the facility's operating procedures and waste management practices. During the VSI, RAI observed SWMUs 2, 3, 4, 6, and 7 had no impermeable flooring and no secondary containment. No evidence of past or current release from these units was observed. However, facility representatives provided information about numerous releases at the facility and as a result three areas of concern were identified. RAI concluded the VSI at 3:00 P.M.



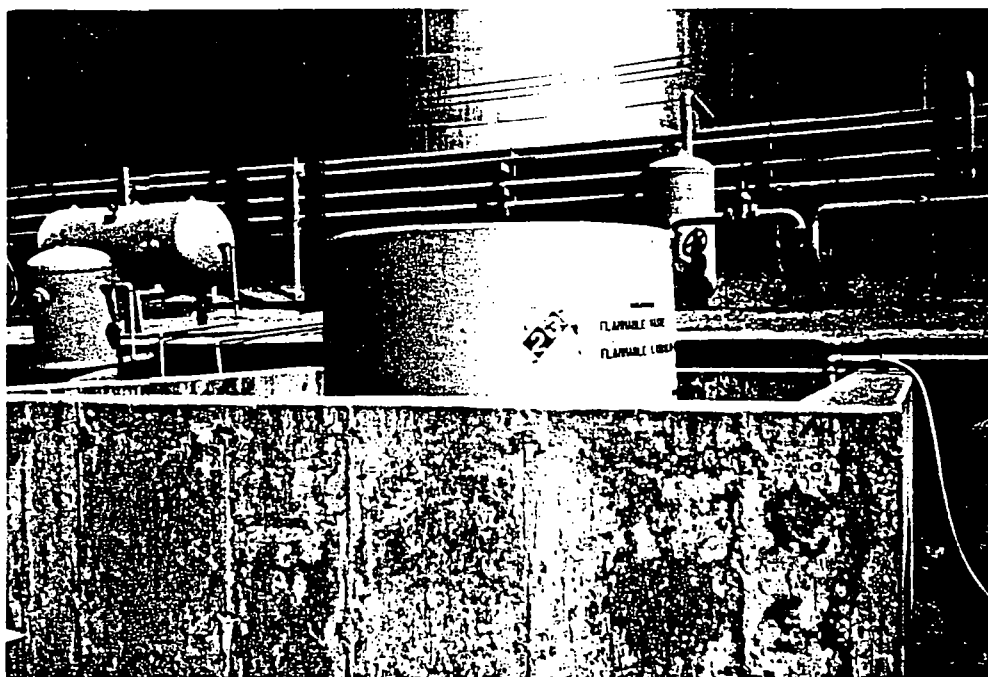
Photograph No. 1

Location: Near SWMU 1

Orientation: Northwest

Date: 06/25/91

Description: Trough and pump used for transfer of waste from the barge cleaning operations on an adjacent concrete floor. In the back, Lower Dock Waste Tank is visible.



Photograph No. 2

Location: SWMU 1

Orientation: North

Date: 06/25/91

Description: Lower Dock Waste Tank with 4-foot high berm.



Photograph No. 3

Orientation: South

Location: SWMU 2

Date: 06/25/91

Description: Upper Dock Waste Tank used for transfer of D001 waste from Lower Dock Tank. In the background chemical storage tanks are visible.



Photograph No. 4

Orientation: Southwest

Location: SWMU 3

Date: 06/25/91

Description: Laboratory Waste Drum Storage Area of F005 waste, lacking a concrete floor and secondary containment. Laboratory is visible in the background.



Photograph No. 5

Orientation: Northwest

Location: SWMU 3

Date: 06/25/91

Description: Laboratory Waste Drum Storage Area of D002 waste. Area does not have a concrete floor or secondary containment. Hazardous waste labels on the drums are visible.



Photograph No. 6

Orientation: South

Location: SWMU 8

Date: 06/25/91

Description: 5-gallon drums and bottles containing laboratory waste.



Photograph No. 7

Orientation: Southwest

Location: SWMU 4

Date: 06/25/91

Description: Waste Oil Drum Storage Area with drums of waste generated during cleaning of product tanks. Waste oil drums are visible in 2 rows. This area does not have a concrete floor or secondary containment.



Photograph No. 8

Orientation: East

Location: SWMU 5

Date: 06/25/91

Description: Waste Accumulation Tank 56 for D001 waste is in the center. The 2 tanks on each side are for chemical storage. The tanks have a 1-foot berm and concrete floor for containment.



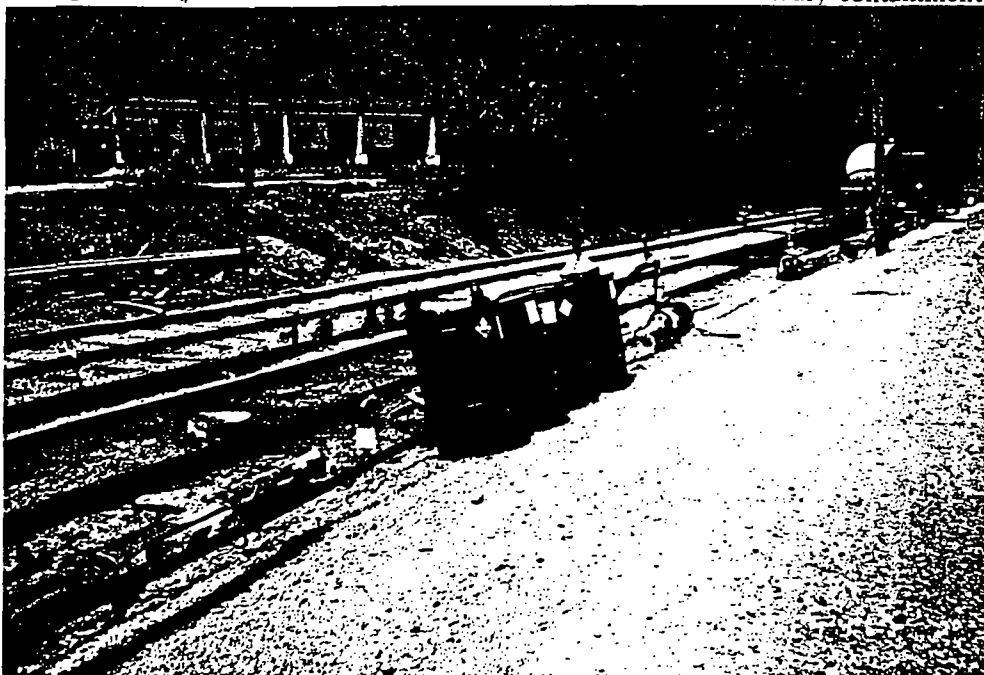
Photograph No. 9

Location: SWMU 6

Orientation: Southwest

Date: 06/25/91

Description: West Satellite Drum Storage Area for D001 waste. Chemical storage tanks are visible in the background. The area does not have a concrete floor or secondary containment.



Photograph No. 10

Location: SWMU 6

Orientation: Northwest

Date: 06/25/91

Description: West Satellite Waste Drum Storage Area for D001 waste. The area does not have a concrete floor or secondary containment.



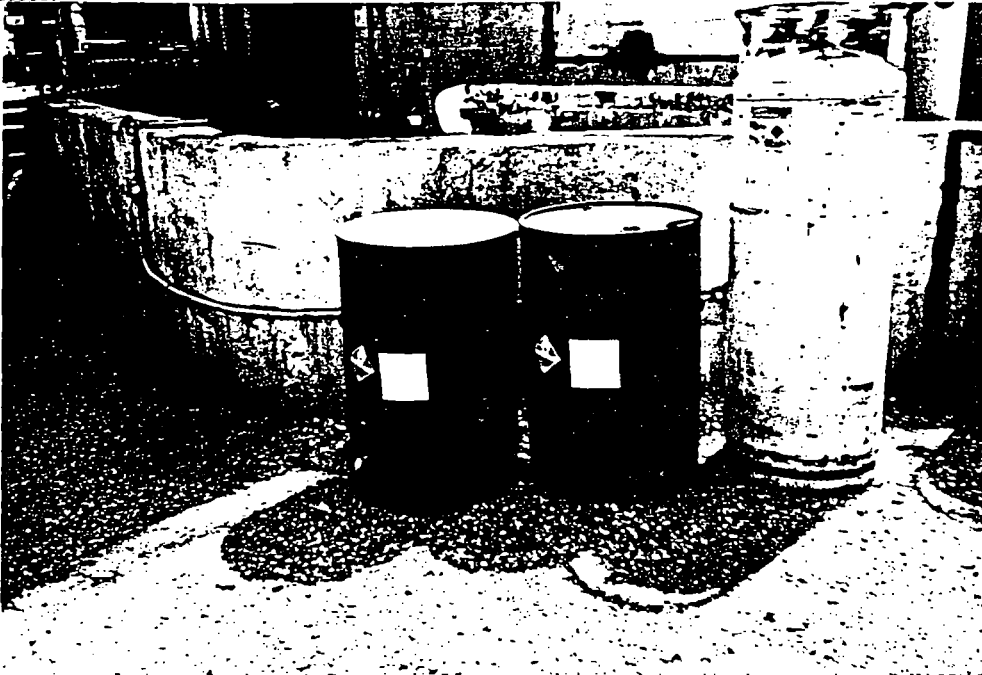
Photograph No. 11

Orientation: North

Description: Southwest Satellite Waste Drum Storage Area for D001 waste. The area does not have a concrete floor or secondary containment. Pipe lines for filling chemicals into the storage tanks are visible.

Location: SWMU 6

Date: 06/25/91



Photograph No. 12

Orientation: Northwest

Description: Southwest Satellite Drum Storage Area for D001 waste. The area does not have a concrete floor or secondary containment. Pumps and storage tanks behind a berm are visible.

Location: SWMU 7

Date: 06/25/91



Photograph No. 13

Orientation: South

Location: SWMU 7

Date: 06/25/91

Description: Southwest Satellite Drum Storage Area for D001 waste. A portable pump for transfer of the waste into drums on the right and a chemical storage tank are also visible.



Photograph No. 14

Orientation: South

Location: SWMU 7

Date: 06/25/91

Description: Southwest Satellite Drum Storage Area for D001 waste. Pump system on left and chemical storage tank on the right are visible.



Photograph No. 15

Orientation: Southeast

Description: Product release containment area along the Chicago Ship and Sanitary Canal in the Southwest Terminal.

Location: Near SWMU 7

Date: 06/25/91

ATTACHMENT C

VISUAL SITE INSPECTION FIELD NOTES

RCA Facility Assessment

6/25/91

Lake River Corporation

5005 S. Franklin Avenue

Beverly, Illinois

RAI Personnel: Mike Gorman

G.P. Smith

(Primary)

Ronald Key

Jane Resch

Lake River is a terminal for

storage and transfer of

chemicals many of which

are flammable. Products are

trans-shipped for customers

who retain ownership throughout

shipment. A private oil company

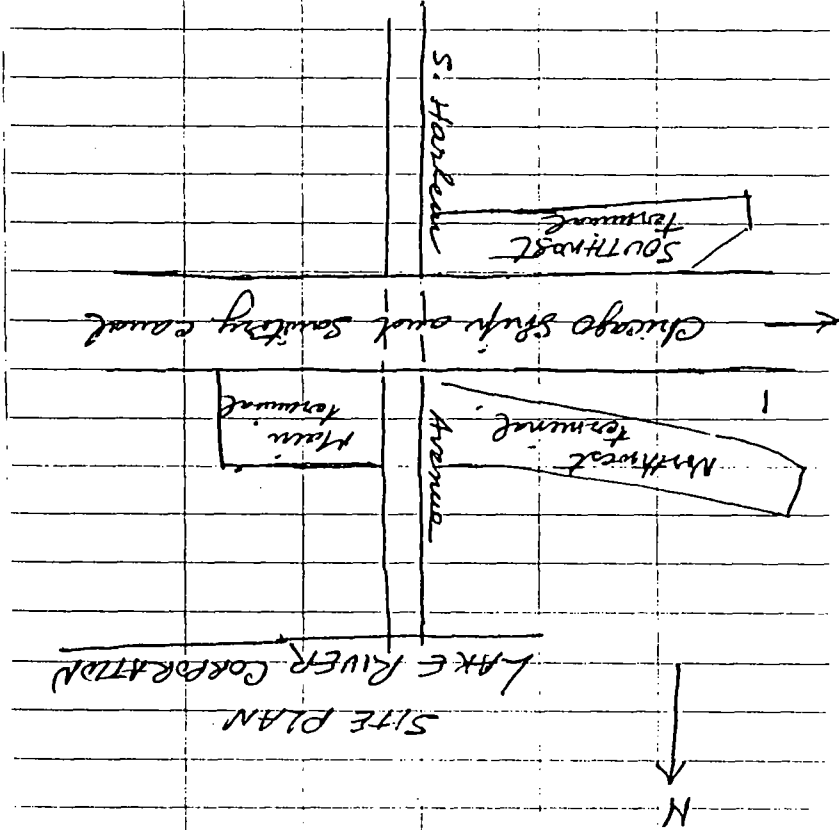
operated at this site in 1985.

In 1987, Kinross Corp of Tulsa

OK purchased the facility.

Chemicals for storage and

Lake River is a subsidiary of
Kinross Corporation. During the
process of line flushing the waste
generated in connecting Doo 1
because of no way to return



The amount quantity of each kind
EPA hazardous wastes.

Facility collects generated D01
wastes in drums at various locations
in the facility which are
transported with truck to
tank # 56 for disposal to
TSD.

Chemical loading in the facility
labelling generates D01, D02 &
F03 wastes which are stored
in drums of 55 gallons. D01
waste is transferred to tank # 56
and D02 & F03 averaging
disposed offsite to TSD in 55
gallon drums.
MR Key witness that approximately
800 gallons of D01 waste and
100 gallons of F03 waste is

transfers are brought in from supply
co's. by truck, rail and barge and
stored in tanks.
During the process of transfer of
chemicals the pipe lines, fittings and
are flushed with the process. The
waste material from flushings is
added in drums of 55 gallons
and transferred to tank # 56
before disposal to incinerator. During
one time tank failure,
approximately 200 orange drums,
network of filling lines, pumps,
are used in handling the chemical.
MR Key witness that approximately
6 million gallons of chemicals are
brought in and the spent amount
disposed out retaining tanking of
about 12 million gallons every year.
Because of back loading of
chemicals, the facility is a
big generator of hazardous wastes.

generated every three months.

The facility has established ranges -
must procedures for the regions
notes. Log books are maintained
for the change and adjustment of
the waste materials. Disposal is
within 90 days.

The main waste tank house
evacuate floor and containment
process for accidental spills.

The Key informs that events for
and event term for zero
golden carbon steel shipped back
tank for waste storage until be
evacuated before start of summer
this year. The waste storage area
of the laboratory has no events
from or secondary containment.

Notes

1. Tanks and pump used for
transfer of waste to storage tank
two galls. waste tank house
2. Two-druck storage tank house
gallons
3. Two gallon shipped back storage
house
4. Laboratory waste drum storage
area
5. Laboratory waste drum storage area
6. Waste collecting bottle in
laboratory
7. Waste oil drums from cleaning
of tanks
8. Tank no 56 for waste
material (DRI) accumulation
9. Waste drum storage tank house
house waste material area
10. Waste drum storage tank house
house waste material area

Waste oil drums too require
concrete floor and secondary
containment.

Satellite drum storage areas
in Northwest & Southwest
terminal area are located at
various locations. No concrete
floor and secondary containment
has been constructed to safeguard
against potential release of
Contaminants.

Waste drums were marked
hazardous waste and date of
filling written on them.

Documented seven spills occurred
during the period 1979 to date.

These were because of failure
of filling lines and pumps. Spill
record before 1979 not available.

11. Waste drum storage area Southwest
terminal satellite area
12. Waste drum storage area South
west terminal satellite area
13. Waste drum and pump
(probably) Southwest terminal
14. Waste drum and hooked pump
Southwest terminal
15. Satellite accumulation area
Southwest terminal.

filling lines storage tanks are
spread all over the facility
area. Accidental discharge
leakage pose potential threat of
release.

facility has close watch and
monitoring system during work hours
by trained personnel. Check the filling
lines pumps and tanks before
activating the pumps.

Working off hrs. at night security
guards remain on duty from
8.00 PM to 6.00 AM ~~night~~ ^{morning}.

Allot water disband in tanks
Metropolitan sewerage system.

facility uses city water supply
for drinking and industrial purpose.
Groundwater wells are not used.
There is no sewerage by industrial

Campuses. The nearest residential

area is to the north at about

$\frac{1}{2}$ mile distance approximately.

Site is in thickly populated

near Chicago suburb. Approximate

Trinity's point # 55 - Hudson Ave

exit.

ATTACHMENT A

EPA PRELIMINARY ASSESSMENT FORM 2070-12

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the 8 SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and RAI observations.

SWMU 1 Lower Dock Waste Tank

Unit Description: The unit is a 1,000-gallon carbon steel tank installed on an impermeable concrete floor with a 4-foot high berm (Photos 1 & 2). This tank collects wastewater from the concrete platform used for flushing and washing barges. A label on the unit identifies it as containing hazardous waste.

Date of Startup: This unit began operations in 1976.

Date of Closure: This unit is currently active.

Wastes Managed: This unit manages commingled D001 waste from barge cleaning.

Release Controls: The tank is surrounded by a 4-foot high concrete berm.

History of Documented Releases: No releases have been documented.

Observations: The tank equipment appeared in good condition during the VSI. There was no evidence of release.

SWMU 2 Upper Dock Waste Tank

Unit Description: This 2,000-gallon carbon steel tank contains hazardous waste pumped from the Lower Dock Waste Tank (SWMU 1; Photo 3). The tank is equipped with a pump and pipeline connecting it to SWMU 1 and is a closed unit. A label on the unit identifies it as containing hazardous waste.

Date of Startup: This unit began operations in 1976.

Date of Closure: This unit is currently active.

Wastes Managed: This unit manages D001 commingled chemical waste from barge cleaning.

Release Controls: The tank is a closed unit equipped with a pump system to fill and remove waste. The unit has no secondary containment.

History of Documented Releases: No releases have been documented.

Observations: During the VSI, the tank and equipment appeared to be in good condition.

SWMU 3 Laboratory Waste Drum Storage Area

Unit Description: The waste drum storage area is not clearly marked. Drums were stored at 2 locations behind the laboratory building (Photos 4 & 5).

Date of Startup: This unit began operations in October 1990.

Date of Closure: This unit is currently active.

Wastes Managed: This unit manages D001, D002 and F005 wastes from the laboratory.

Release Controls: The wastes are stored in 55-gallon drums. There is no impermeable floor or secondary containment around the drums to contain accidental releases.

History of Documented Releases: No releases have been documented.

Observations: During the VSI, four drums of hazardous waste (two drums of D002 and two drums of F005) were stored and in good condition. Labels on the drums identified them as containing hazardous waste.

SWMU 4 Waste Oil Drum Storage Area

Unit Description: The waste oil drums were placed in 2 rows along the main east-west road through the facility (Photo 7). No separate area for the drum storage is marked.

Date of Startup: This unit began operations in May 1991.

Date of Closure: This unit is currently active.

Wastes Managed: The unit manages non-hazardous waste oil from cleaning product tanks.

Release Controls: The drums were stored on unpaved ground. There is no impermeable floor or secondary containment around the drums.

History of Documented Releases: No releases have been documented.

Observations: Fourteen 55-gallon drums of non-hazardous waste were observed during the VSI. All drums appeared to be in good condition.

SWMU 5 Waste Accumulation Tank 56

Unit Description: This unit is a 15,000-gallon steel tank used for the collection of D001 hazardous waste material from SWMUs 1, 2, 3, 6, and 7 prior to disposal (Photo 8). A label affixed to this unit identifies it as containing hazardous waste.

Date of Startup: This unit began operations in 1976.

Date of Closure: This unit is currently active.

Wastes Managed: This unit manages commingled D001 wastes flushed out of filling lines.

Release Controls: The unit has a pumping system for taking in and expelling the hazardous waste material. The secondary containment consists of a 12-inch high berm and a concrete floor measuring 100 feet x 60 feet (Key, 1991).

History of Documented Releases: No releases have been documented.

Observations: The condition of the unit was satisfactory at the time of the VSI. Shipment records were properly maintained and wastes disposed of off-site within 90 days by Avganic/IN.

SWMU 6 West Satellite Waste Drum Storage Area

Unit Description: Wastes generated from truck and rail car cleaning are stored in 55-gallon drums along the West Terminal in several separate areas not individually demarcated (Photos 9 & 10). The wastes are transferred to SWMU 5 using non-dedicated portable pumps.

Date of Startup: This unit began operations in 1976.

Date of Closure: This unit was formerly used storage of hazardous wastes for periods greater than 90 days. It was closed in accordance with an IEPA-approved closure plan in February, 1984 (IEPA, 1984b), and is currently active as a satellite area.

Wastes Managed: This unit manages commingled D001 wastes generated from flushing of lines and cleaning of trucks and rail cars.

Release Controls: The wastes are stored in 55-gallon drums marked with hazardous waste labels and date of filling. The filling of drums is closely monitored and logbooks are maintained. There is no impermeable floor.

History of Documented Releases:	No releases have been documented.
Observations:	During the VSI, RAI observed that all drums appeared sound.
SWMU 7	Southwest Satellite Drum Storage Area
Unit Description:	Wastes generated from truck and rail car flushing and cleaning are stored in 55-gallon drums at various locations in the Southwest Terminal (Photos 11, 12, 13, and 14). No specific area for storage is demarcated. This unit differs from SWMU 6 in that the pumps are dedicated to this unit.
Date of Startup:	This unit began operations in 1976.
Date of Closure:	This unit is currently active.
Wastes Managed:	This unit manages commingled D001 wastes generated from flushing filling lines and cleaning truck and rail cars.
Release Controls:	Wastes are stored in drums. There is no impermeable floor; however, there are concrete and asphalt berms that would prevent a release from entering the Chicago Sanitary and Ship Canal (Photo 15).
History of Documented Releases:	No releases have been documented.
Observations:	Three properly labeled drums in good condition were observed during the VSI. The facility follows close monitoring procedures for the filling and transfer of the drummed waste materials.
SWMU 8	Laboratory Satellite Area
Unit Description:	The laboratory wastes are stored in 5-gallon drums and bottles (Photo 6). When the containers are filled, the waste is transferred to 55-gallon

drums at SWMU 3.

Date of Startup: This unit began operations in October 1990.

Date of Closure: This unit is currently active.

Wastes Managed: This unit manages D001, D002, and F005 wastes from laboratory testing.

Release Controls: The waste is stored in 5-gallon drums and bottles in the laboratory.
The unit is indoors with low release potential.

History of Documented Releases: No releases have been documented.

Observations: During the VSI, 5-gallon drums and bottles were observed to be in good condition.

4.0 AREAS OF CONCERN

RAI identified 3 AOCs during the PA/VSI. These are discussed below.

AOC 1

Main Terminal and Barge Unloading Area

Unit Description:

Lake-River Terminal handles approximately 6 million gallons of some 200 different chemicals annually. The potential for chemical spills exists from the failure of pipelines and pumps located throughout the facility. The pipeline system is both above and below ground level. Facility personnel use a double check method for inspection of tanks and pipelines before the pumps are activated. During off hours, security guards remain on duty to detect any spills. Three documented spills at locations 1, 2, & 3 (Figure 2) have occurred in this area since 1979. Prior to 1979, no records of spills are available. The facility has not conducted soil and ground water sampling to determine the presence of contamination.

AOC 2

West Terminal Area

Unit Description:

The facility manages chemicals in this area similar to those in AOC 1. There is a potential for chemical releases through pipeline and pump failures. Four documented spills occurred in this area since 1979 at locations 4, 5, 6 & 8 (Figure 2). Prior to 1979, no records of spills are available. The facility has not conducted soil and ground water sampling to determine the presence of contamination.

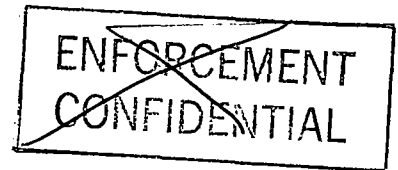
AOC 3

Southwest Terminal Area

Unit Description:

The facility manages chemicals in this area similar to those in AOC 1. There is a potential for chemical spills through pipeline and pump failure. One documented spill occurred in this area in 1987 at location 7 (Figure 2). Prior to 1979, no records of spills are available. The facility has not conducted soil and ground water sampling to determine the presence of contamination.

RELEASED
DATE 11/14/07
RIN #
INITIALS mw



5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified 8 SWMUs and 3 AOCs at the Lake-River facility. Background information on the facility's location, operations, waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is discussed in Section 3.0. AOCs are discussed in Section 4.0. Following are RAI's conclusions and recommendations for each SWMU and AOC. Table 3 identifies the SWMUs and AOCs at the Lake-River facility and suggested further actions.

SWMU 1 Lower Dock Waste Tank

Conclusions: The waste tank is a closed system. A pump is used for filling the tank with D001 waste material. This unit is located on an impermeable concrete floor and has a 4-foot high concrete berm for containment. The system has a low potential for release to the ground water, soil, air, and surface water.

Recommendations: No further action at this time.

SWMU 2 Upper Dock Waste Tank

Conclusions: This tank is used to manage D001 waste and does not have secondary containment. Since there is no secondary containment, a potential exists for a release. However, the tank is in sound condition, so release potential to the soil, ground water, surface water, and air is low to moderate.

Recommendations: RAI recommends that a suitable berm around the waste tank be constructed. Facility officials indicated that construction of the secondary containment is to be completed by the end of the summer of 1992. Follow-up action is recommended to verify the completion of the secondary containment.

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TABLE 3

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SWMU AND AOC SUMMARY

<u>SWMU</u>	<u>Operational Dates</u>	<u>Evidence of Release</u>	<u>Suggested Further Action</u>
1. Lower Dock Waste Tank	1976 to present	None	No further action at this time.
2. Upper Dock Waste Tank	1976 to present	None	Construct secondary containment such as a berm.
3. Laboratory Waste Drum Storage Area	1990 to present	None	Construct secondary containment such as concrete flooring.
4. Waste Oil Drum Storage Area	May 1991 to present	None	Construct secondary containment such as concrete flooring and use proper demarcation.
5. Waste Accumulation Tank 56	1976 to present	None	No further action at this time.
6. West Satellite Waste Drum Storage Area	1976 to present	None	No further action at this time.
7. Southwest Satellite Waste Drum Storage Area	1976 to present	None	No further action at this time.
8. Laboratory Satellite Area	1990 to present	None	No further action at this time.

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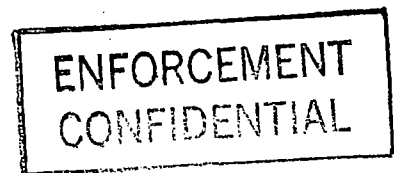
TABLE 3
SWMU AND AOC SUMMARY

(CONTINUED)

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<u>AOC</u>	<u>Operational Dates</u>	<u>Evidence of Release</u>	<u>Suggested Further Action</u>
1. Main Terminal and Barge Unloading Area	1976 to present	Three documented releases from 1979 to present.	Sample soil and ground water for the presence of naphtha spirits and and fuel oil.
2. West Terminal Area	1976 to present	Four documented releases from 1979 to present.	Sample soil and ground water for the presence of butyl acetate, amyl acetate and butanol.
3. Southwest Terminal Area	1987	One documented release from 1979 to present.	Sample soil and ground water for the presence of isooctane.

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SWMU 3

Laboratory Waste Drum Storage Area

Conclusions:

The drum storage area is used to manage D001, D002, and F005 wastes. The unit has no impermeable flooring and no secondary containment. Since there is no secondary containment, a potential exists for a release. However, the drums are in sound condition, so release potential to the soil, ground water, surface water, and air is low to moderate.

Recommendations:

RAI recommends constructing some type of secondary containment such as a berm and an impermeable floor.

SWMU 4

Waste Oil Drum Storage Area

Conclusions:

The area for the storage of drums has not been separately demarcated and has no concrete floor or secondary containment. Any spill may contaminate the soil, and, if uncontained, ground water and surface water.

Recommendations:

RAI recommends proper demarcation of the area and construction of an impermeable concrete floor and secondary containment for spills.

SWMU 5

Waste Accumulation Tank 56

Conclusions:

This storage tank for D001 hazardous waste accumulation is on a concrete floor. Secondary containment for the unit is adequate. The tank has a pump system for taking in and expelling waste material. The system presents a low potential for release to ground water, soil, surface water, and air.

Recommendations:

No further action at this time.

SWMU 6

West Satellite Waste Drum Storage Areas

Conclusions:

Waste D001 drums are managed at several points around the terminal. There is no concrete floor or secondary containment. The filling of

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INITIALS mv

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drums is closely monitored and log books are maintained. Since there is no secondary containment, a potential exists for a release. However, the drums are in sound condition, so release potential to the soil, ground water, and surface water, and air is low to moderate.

Recommendations: No further action at this time.

SWMU 7 Southwest Satellite Waste Drum Storage Areas

Conclusions: Waste D001 drums are managed at several points around the terminal. There is no concrete floor; but a concrete and asphalt berm is constructed to prevent a release to the Chicago Sanitary and Ship Canal. The filling of drums is closely monitored and log books are maintained. The drums are in sound condition, so release potential to the soil, ground water, and air is low to moderate. The release potential to surface water is low.

Recommendations: No further action at this time.

SWMU 8 Laboratory Satellite Area

Conclusions: The D001, D002, and F005 wastes from the laboratory testing of chemicals are stored in 5-gallon buckets and bottles and kept in the laboratory until filled. They are then transferred to 55-gallon drums at SWMU 3. Since this unit is located inside and the buckets and bottles are sound, release potential to soil, ground water, surface water, and air is low.

Recommendations: No further action at this time.

AOC 1 Main Terminal and Barge Unloading Area

Conclusions: Lake-River Terminal handles approximately 6 million gallons of chemicals annually (Key, 1991). The chemicals are transferred through filling lines and pumps and stored in storage tanks located throughout

the terminal area. Potential for chemical spills exists from pipeline and pump failure. There is a history of 3 documented chemical spills since 1979 at locations 1, 2, and 3 (Figure 2). The facility has not conducted soil and ground water sampling to determine the presence of contamination at locations 1 & 2. Facility personnel carry out a double check and inspection of lines before the pumps are activated. Procedures include a thorough visual inspection of the tank valves, pumps, and structural integrity prior to, during, and after the transfer of the product. Pipeline systems are both above and below the ground. Leaks in the underground system are not easily detectable.

Recommendations:

RAI recommends soil and ground water sampling for naphtha spirits and fuel oil at spill locations 1 & 2 (Figure 2) to determine the presence of contaminants.

AOC 2

West Terminal Area

Conclusions:

The situation of the West Terminal is similar to the Main Terminal. Potential for chemical spills exists from pipeline and pump failure. Four chemical spills have occurred since 1979 at locations 4, 5, 6, and 8 (Figure 2). The facility has not conducted soil and ground water sampling to determine the presence of contaminants.

Recommendations:

RAI recommends sampling the soil and ground water for butyl acetate, amyl acetate, and butanol to determine the presence of contaminants.

AOC 3

Southwest Terminal Area

Conclusions:

The situation of the Southwest Terminal is similar to the Main Terminal. Potential for chemical spills exists from pipeline and pump failure. One chemical spill occurred in 1987 at location 7 (Figure 2). The facility has not conducted soil and ground water sampling to determine the presence of contaminants.

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Recommendations:

RAI recommends that soil and ground water sampling for isooctane should be conducted at location 7 (Figure 2) to determine the presence of contaminants.

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DATE 11/14/07

RIN #

INITIALS WJ

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TABLE 2
SOLID WASTES

<u>Waste/ EPA Waste Code</u>	<u>Source</u>	<u>Primary Management Unit*</u>
Commingled chemical flushings/D001	Flushing of hose pipes and lines with product; barge and truck cleaning	SWMUs 1, 2, 3, 5, 6 & 7
Acids/D002	Laboratory waste	SWMU 3
Spent solvent/F005	Laboratory waste	SWMU 3
Waste Oil/NA	Cleaning product tanks	SWMU 4

Note:

* Primary management unit refers to a SWMU that currently manages or formerly managed the waste.

** Nonapplicable (NA) designates nonhazardous waste.

2.4 HISTORY OF DOCUMENTED RELEASES

There are no records of any spills prior to 1979; the following spills occurred during the period 1979 to the present.

November 1, 1979: 350 Gallons of #6 Fuel Oil

Cause: A gasket on the barge side of the transfer connection failed, causing the oil to leak off the barge into the canal. The spill location was near Tank 1 (Figure 2, AOC 1, location 1).

Response: Transfer personnel confined the spill with a boom. Petro-Chem was immediately called to clean up the spill at the dock and to recover oil that had escaped downstream. The facility did not conduct soil or ground water sampling (Key, 1991).

June 20, 1980: 2,300 Gallons of Naphtha Spirits

Cause: A tank was overfilled. The spill was contained by the containment dike, but during the cleanup operation some of the solvent seeped into the ground water and produced a sheen on the surface of the adjoining shoreline and water. The spill location was near Tank 4 (Figure 2, AOC 1, location 2).

Response: Petro-Chem cleaned up the material in the dike and disposed of the solvent. Lake-River personnel installed a boom around the seepage area and removed the collected material. The facility did not conduct soil or ground water sampling (Key, 1991).

January 15, 1981: Unknown Volume of Unknown Material

Cause: Unknown

Response: The U.S. Coast Guard (USCG) wrote a citation concerning a spill of unknown origin and unknown size that seemed to emanate from the terminal. Twenty-five samples of water were taken from the shoreline and dikes in the area of the seepage. The USCG laboratory concluded that the spill was from a dike overflow to the surrounding shoreline. Sampling results were submitted to the facility. Lake-River's chemist was not

able to corroborate the USCG findings because the results did not correspond with any materials stored at Lake-River. As a result, the USCG concluded that the spill did not emanate from the facility and dropped the case. The spill location was on the Chicago Sanitary and Ship Canal (Figure 2, AOC 1, location 3).

April 11, 1985: 1,398 Gallons of Butyl Acetate Ur/grade

Cause: While a barge was being unloaded, a fingertip-sized hole developed in an underground unloading line. The leak went undetected. The spill location was near Building 9 (Figure 2, AOC 2, location 4).

Response: An odor was detected in the sewer at 6:00 a.m. on April 11, 1985. Facility sump pumps were turned off and water flow from the facility was stopped. Commercial Pumping was called in to clean up the spill. The Metropolitan Sanitary District (MSD) and Illinois EPA were notified. MSD inspected on April 11 and 12 and allowed the reopening of the sewer to discharge effluent. The facility did not conduct soil and ground water sampling.

June 19, 1985: 1,750 Gallons of Primary Amyl Acetate

Cause: An underground pipe developed a leak during barge unloading. The leak was detected and line air was blown into the tank to prevent further leakage until line repairs could be made. The spill location was under Harlem Avenue (Figure 2, AOC 2, location 5).

Response: The sewer was not plugged, tank gauges were inaccurate, and the Account Supervisor was not notified of the suspected problem by Operations. Operations' response to the spill was slow and they were not aware of the severity of problem until the following morning when they were notified of a strong odor in the laboratory. The facility did not conduct soil and ground water sampling.

January 30, 1986: 220 Gallons of Butyl Acetate

Cause: A loader failed to check a discharge outlet to ensure closure. The spill location was near Loading Rack 15 (Figure 2, AOC 2, location 6).

Response: The spill was cleaned up by Lake-River employees. The MSD was notified of potential sewer contamination. Subsequent investigation measured no combustible gas and no fines were levied. The facility did not conduct soil and ground water sampling.

June 3, 1987: 13,021 Gallons of Isooctane

Cause: An employee failed to close a tank valve after discharging the contents of a rail car to the facility shore tank. In addition, the employee failed to disconnect the unloading hose which was draped over the dike wall to a rail car, allowing the material to flow along the track and through a low spot in the berm wall to the canal. The spill location was near Building 12 (Figure 2, AOC 3, location 7).

Response: Petro-Chem was called by Lake-River personnel within 2 minutes of notification and reported to the scene within the hour. A vacuum truck began picking up the material on the tracks, while a boat team discharged 300 feet of boom to capture material on the canal surface. Clean-up continued through June 5th. The MSD and USCG were notified. The facility did not conduct soil and ground water sampling.

June 15, 1987: 213 Gallons of Butanol

Cause: A line leak was discovered within hours of tank opening after weekend shutdown. The spill location was near Tank 121 (Figure 2, AOC 2, location 8).

Response: The material was cleaned up by Lake-River Terminal personnel for disposal. The line was clamped to prevent further leakage pending capital to replace line. The facility did not conduct soil and ground water sampling.

There are no documented complaints made by residents or employees and no evidence of release, past or present, was observed during the VSI.

2.5 REGULATORY HISTORY

Lake-River filed a Notification of Hazardous Waste Activity designating the company as a generator and treatment, storage, or disposal (TSD) facility in September 1980 (Lake River, 1980a). Lake-River filed a Part A Permit Application to store (S01) hazardous waste on November 18, 1980

(Lake-River, 1980b). The facility submitted a Closure Plan for the S01 area on December 7, 1983. On February 10, 1984, IEPA determined that the closure met the requirements of 35 Illinois Administrative Code, Section 725 and 40 CFR, Part 265. Lake-River is now regulated as a generator only (IEPA, 1984b).

In August 1983, IEPA issued a compliance notice to the facility for apparent violation of 35-IL Administrative Code, parts 722 and 725, concerning non-maintenance of its waste analysis plan, inspection records, and testing facilities. The facility submitted a schedule of procedures to be followed to bring the facility into compliance (Lake-River, 1983). RAI could not determine from the record when these violations were resolved. However, during an inspection of the facility on November 22, 1988, the inspecting official recorded "no apparent violations were observed" (IEPA, 1988a).

The facility has NPDES Permit #IL0001317 (IEPA, 1984c) for the following:

<u>Discharge Number and Name</u>	<u>Receiving Waters</u>
001 Non-Contact Steam Condensate	Chicago Sanitary & Ship Canal

The facility is applying to IEPA for a second outfall for this NPDES permit (Key, 1991).

The facility currently operates with the following air permits:

<u>Permit #</u>	<u>Operation</u>	<u>Date Received</u>	<u>Expiration Date</u>	<u>Reference</u>
73021827	Public Bulk Storage	April 4, 1987	May 24, 1992	(IEPA, 1989)
83110046	Acetone Storage Tank	September 5, 1990	February 11, 1996	(IEPA, 1990)
86090060	Plastic Silo	October 29, 1986	October 23, 1991	(IEPA, 1987)

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the Lake-River Corporation facility.

2.6.1 Climate

Berwyn, Illinois is located in southwest Cook County, Illinois, about 1.5 miles north of Chicago Midway Airport, which is a U.S. National Weather Service Station. With no significant topographical barriers to air mass flow, the climate in the area is typically continental with cold winters, warm summers, and frequent short periodic fluctuations in temperature, humidity, cloudiness and wind

direction (Ruffner, 1985). The average daily temperature is 50.6°F. The lowest average daily minimum temperature is 17.0°F in January. The highest daily maximum temperature is 84.4°F in July. The prevailing wind direction is west-southwest, and the average wind speed is 10.4 miles per hour. Average annual precipitation, as a water equivalent, is 34.45 inches. The annual net precipitation is 4.65 inches. In winter, about one-half of the precipitation, or 10 percent of the annual total, falls as snow. During the fall, winter, and spring, the pattern of precipitation tends to be more uniform over both time and distance, whereas, in the summer, rainfall is often locally heavy and variable. The 1-year, 24-hour maximum rainfall recorded in the area over the last 36 years is 6.24 inches (Ruffner and Bair, 1985).

2.6.2 Flood Plain and Surface Water

The facility is located southeast of the Des Plaines River and adjacent to the Chicago Sanitary and Ship Canal. Both the Sanitary and Ship Canal and the Des Plaines River flow south-southwest from the site. The facility is served by the Chicago Metropolitan Water Reclamation District sewage system for surface drainage and wastewater disposal. Relief is low since elevation changes by no more than 7 feet along a two-mile cross section. Ground water drainage is toward the canal. The area is in a Zone C floodplain, that is, an area of minimal flooding outside the 500-year flood limit (FEMA, 1983).

2.6.3 Geology and Soils

Surface features in the Chicago area are mainly the result of glaciation and almost completely cover the underlying bedrock surface (Willman, 1971). The facility is located in the southwestern portion of the Chicago metropolitan area and is likely underlain by the Urban Land-Markham-Ashkum complex, characterized by clayey soil. Soils are deep, gently rolling to nearly level, are moderately well drained to poorly drained and have a clay and silt subsoil. These soils were formed in glacial till (USDA, 1979). The urban land portion, making up more than 75 percent of the complex, designates a radically altered soil that is covered by buildings, parking lots, and pavement, precluding identification of the underlying soil. The typical Markham series soil consists of deep, moderately well-drained soils which are moderately to slowly permeable or slowly permeable. These soils are on till plains and moraines on uplands. They are formed in a thin layer of silty material and the underlying silty clay loam glacial till. Slope ranges from 2 to 10 percent. The soil complex is often graded so that water drains to the edges of lots and ultimately into the sewer systems. Water carrying capacity and permeability vary from location to location as a function of construction activity and are generally

considered low to moderate. Run-off is medium to very rapid, depending upon the percentage of slope (USDA, 1979).

In the vicinity of the site, dolomite underlies glacial drift, whereas to the west, bands of older shale and sandstone lie directly beneath the drift. Formations in the Chicago area of Silurian age are almost entirely dolomite, whose composition ranges from extremely argillaceous, silty and cherty to exceptionally pure. In the site locale, this formation is about 250 feet thick. Within each of these 2 systems are distinctive sandstone formations which serve as major aquifer systems in the Chicago area. The base of the Cambrian is in contact with the crystalline pre-Cambrian basement, mainly granite at an inferred depth of 4,000 feet (Willman, 1971; Bergstrom, et al., 1955).

2.6.4 Ground Water

In northeastern Illinois, ground water is obtained from 4 major aquifer systems: glacial drift, shallow bedrock, and 2 deep bedrock aquifer systems: the Cambrian-Ordovician and the Mt. Simon. The latter 2 are separated on the basis of hydrogeological properties and source of recharge; each system is utilized in the vicinity of the site (Hughes, et al., 1966). In Cook County, the fine coarse gravel deposits, which are in some places as much as 100 feet thick within the glacial drift, provide the poorest possibilities for industrial and municipal supplies of water. Beneath the glacial drift lies dolomite which yields ground water at most locations through open crevices and channels. Most domestic wells obtaining water from dolomite penetrate the rock at 15 to 75 feet, and industrial and municipal wells generally penetrate at 50 to 250 feet (Bergstrom, et al., 1955). The shallow bedrock aquifer system in the vicinity of the site consists predominantly of Silurian dolomite under the glacial drift. The upper boundary of the shallow bedrock is the top of the bedrock whereas the top of the Galena-Platteville dolomite is the lower boundary. The shallow bedrock aquifers yield water through fractures and solution openings, and there is appreciable leakage to the deep bedrock aquifer system (Hughes, et al., 1966).

The deep bedrock aquifer system includes the Cambrian-Ordovician aquifer system and the Mt. Simon aquifer system with the major aquifers being the Glenwood-St. Peter, Ironton-Galesville, and Mt. Simon sandstones. The top of the Cambrian-Ordovician aquifer system is at the top of or within the Galena-Platteville dolomite. The deepest Mt. Simon is separated from the Cambrian-Ordovician system by relatively impermeable shales and dolomite of the upper and middle part of the Eau Claire Formation. The Platteville Group Formation and the Glenwood Formation contact at a depth of approximately 750 feet. The Ironton-Galesville sandstone is at a depth of approximately 1,200 feet and

The Glenwood-St. Peter Sandstone unit is widely utilized as an aquifer within the Cambrian-Ordovician aquifer system, where water requirements are less than 200 gallons per minute (gpm). This unit has a permeability of approximately 15 gallons per day (gpd)/square foot (sq. ft.) The Ironton-Galesville Sandstone unit is the major producing unit in the Cambrian-Ordovician aquifer because it has the most consistent permeability (35 gpd/sq. ft.) and thickness (200 ft.) of the aquifers in northeastern Illinois (Hughes, et al., 1966).

Recharge in the deep units is mostly from north of the site, where the rocks out crop at the surface or lie immediately below the glacial drift. Additional recharge is contributed by leakage downward through the shallow bedrock aquifer system (Hughes, et al., 1966).

The deeply buried bedrock aquifer system - the Mt. Simon aquifer sandstone - is a reliable source of municipal and industrial water supplies in the vicinity of the site. The depth of the Galesville sandstone ranges from 1,000 feet in northwestern Cook County to 1,800 feet in the extreme southern part (Bergstrom, 1955). The average permeability of the Mt. Simon aquifer system is approximately 16 gpd/sq. ft. The quality of water deteriorates with depth and water is too highly mineralized for most purposes. Approximately 275 feet of fresh water-bearing sandstone in the Mt. Simon aquifer system can be expected at this site (Hughes, et al., 1966).

2.7 RECEPTORS

The Lake-River facility is located adjacent to the Chicago Sanitary and Ship Canal and the Des Plaines River is within one-half mile to the northwest. The facility is in an industrial area, but residential areas lie within one-half mile to the northeast. A forest preserve area, 1/2 mile wide and 1 mile long, lies to the north along the Des Plaines River.

The facility is fenced, and has controlled entry. There are danger signs at the entrance. All terminal gates and storage and handling areas are locked at 8:00 p.m. each evening. The security guards remain on duty from 8:00 p.m. until 6:00 a.m. each day and on all holidays (Key, 1991). This security system keeps the possibility of public contact with contaminated soils minimal.

Water for drinking and industrial uses is obtained from the City of Chicago water supply system. Wells are not used locally for drinking water and surface drainage is through storm sewers. The

Chicago Sanitary and Ship Canal is the nearest body of water and is not used for recreational purposes.

There are no known wetlands or habitats of endangered species within 2 miles of the site, although the forest preserve land to the northwest may be considered a sensitive environment.